WHAT IS CLAIMED IS:

1. A method of detecting a protrusion on a recording medium, comprising:

obtaining an angular position signal specifying an angle of rotation of the recording medium from a standard attitude of the recording medium;

obtaining a detection signal output from a collision detector designed to detect a collision between a surface of the recording medium and a flying slider; and

determining a collision between the surface of the recording medium and the flying slider based on the angular position signal and the detection signal.

2. The method of detecting according to claim 1, wherein a constant relative speed is set between the surface of the recording medium and the flying slider during the rotation of the recording medium.

3. The method of detecting according to claim 2, wherein said collision detector is designed to detect a sound induced based on a collision between the surface of the recording medium and the flying slider.

4. The method of detecting according to claim 3, wherein said collision detector is an acoustic emission sensor mounted on the flying slider.

5. The method of detecting according to claim 4, wherein said acoustic emission sensor is a piezoelectric element.

6. The method of detecting according to claim 1,

comprising:

obtaining an index signal specifying the standard attitude of the recording medium when the angular position signal is generated; and

generating a sine wave signal based on a period of the index signal.

7. The method of detecting according to claim 6, comprising:

obtaining an index signal specifying the standard attitude of the recording medium when the angular position signal is generated; and

generating a cosine wave signal based on a period of the index signal.

8. The method of detecting according to claim 7, comprising:

generating a first reference signal specifying a product of the sine wave signal and the detection signal;

generating a first integral signal specifying an integral value of the first reference signal over a predetermined number of revolution of the recording medium;

generating a second reference signal specifying a product of the cosine wave signal and the detection signal;

generating a second integral signal specifying an integral value of the second reference signal over a predetermined number of revolution of the recording medium;

generating a comparative reference signal specifying a sum of the integral values of the first and second integral signals.

9. The method of detecting according to claim 8, wherein a constant relative speed is set between the surface of the recording medium and the flying slider during the rotation of the recording medium.

10. The method of detecting according to claim 9, wherein said collision detector is designed to detect a sound induced based on a collision between the surface of the recording medium and the flying slider.

11. The method of detecting according to claim 10, wherein said collision detector is an acoustic emission sensor mounted on the flying slider.

12. The method of detecting according to claim 11, wherein said acoustic emission sensor is a piezoelectric element.

13. A detecting apparatus for a protrusion on a recording medium, comprising:

a function generating circuit designed to generate a wave signal of a trigonometric function synchronized with rotation of the recording medium;

a first multiplying circuit designed to multiply a detection signal from an acoustic emission sensor by a sine wave signal so as to generate a first reference signal;

a first integration circuit designed to calculate an integral value of the first reference signal over a predetermined number of revolution of the recording medium;

a second multiplying circuit designed to multiply a detection signal from the acoustic emission sensor by a cosine wave signal so as to generate a second reference signal;

a second integration circuit designed to calculate an integral value of the second reference signal over a predetermined number of revolution of the recording medium; and

an addition circuit designed to add outputs from the first and second integration circuits to each other.

14. The detecting apparatus according to claim 13, wherein said acoustic emission sensor is a piezoelectric element.

15. The detecting apparatus according to claim 14, wherein said piezoelectric element is a PZT element.

16. The detecting apparatus according to claim 13, comprising:

a spindle motor generating a driving force for the rotation of the recording medium;

a flying slider opposed to a surface of the recording medium mounted on a rotation shaft of the spindle motor, said flying slider supporting the acoustic emission sensor; and

a controlling circuit designed to control rotation speed of the rotation shaft based on position of the flying slider relative to the rotation shaft of the spindle motor.

17. The detecting apparatus according to claim 16, wherein said acoustic emission sensor is a piezoelectric element.

18. The detecting apparatus according to claim 17, wherein said piezoelectric element is a PZT element.